ABSTRACT

In a crystalline silicon film fabricated by a related art method, the orientation planes of its crystal randomly exist and the orientation rate relative to a particular crystal orientation is low. A semiconductor material which contains silicon as its main component and 0.1-10 atomic % of germanium is used as a first layer, and an amorphous silicon film is used as a second layer. Laser light is irradiated to crystallize the amorphous semiconductor films, whereby a good semiconductor film is obtained. In addition, TFTs are fabricated by using such a semiconductor film.

[EQUATION 1]

$$\{101\}\ \text{ORIENTATION RATIO} = \frac{\text{NUMBER OF MEASURED POINTS WITHIN ALLOWABLE ANGLE BETWEEN LATTICE PLANE } \{101\} \text{ AND FILM SURFACE}}{\text{TOTAL NUMBER OF MEASURED POINTS}}$$